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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/303,587	05/03/1999	MIKA VILJANMAA	990.119CON	8567

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STEINBERG & RASKIN, P.C.
1140 AVENUE OF THE AMERICAS, 15th FLOOR
NEW YORK, NY 10036-5803

EXAMINER

HUYNH, LOUIS K

ART UNIT PAPER NUMBER

3721

DATE MAILED: 03/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/303,587

Applicant(s) **MT**

VILJANMAA ET AL.

Examiner

Louis K. Huynh

Art Unit

3721

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2003 and 08 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8-13,15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-13,15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 May 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 08, 2002 (Paper No. 13) has been entered.

Claim Objections

2. Claim 1 is objected to because of the following informalities:

The amendment of claim 1: "to apply a load" (line 5) is different from the marked-up version provided therewith: "to selectively apply a load" (line 5).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6, 8-13, 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite for lacking the structural relationship between the step of assigning and the step of regulating, and the functional relationship between the variable representing a physical property affecting the bending of each of the at least two intermediate rolls and the ratio of linear loads, the weights and the support forces. Furthermore, claim 1 does not recite the

Art Unit: 3721

functional relationship of the step of regulating with respect to the operation of the calender such that the calender is in a state of equilibrium and a predetermined state of deflection, i.e. the structural/functional relationships between the support cylinders and the regulated support forces.

Claim 11 is indefinite for lacking the structural relationship between the assigning function and the regulating function of the automation system, and functional relationship between the variable representing a physical property affecting the bending of each of the at least two intermediate rolls and the ratio of linear loads, the weights and the support forces. Furthermore, claim 11 does not clearly recite the functional relationship of the automation system with respect to the operation of the calender such that the calender is in a state of equilibrium and a predetermined state of deflection, i.e. the structural/functional relationships between the support cylinders and the regulated support forces.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6, 8-13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koivukunnas et al. (US 5,438,920) in view of Schiel (US 5,226,357).

Koivukunnas discloses a method and a calender for calendaring a paper web; the calender having a set of rolls including an upper variable-crown roll (13), a lower variable-crown roll (14), and a plurality of intermediate rolls (15-22); wherein the paper web is calender between

Art Unit: 3721

nips (N_1 - N_9) formed between the rolls such that the rolls have bending lines curved downward; wherein the linear load profile in the nips are kept substantially uniform (column 11, line 34-36); wherein the weight of the rolls and the weight of auxiliary equipment attached to the rolls are compensated for by the relief devices (154). The method and calender of Koivukunnas meet all of applicant's claimed subject matter but lacks the specific teaching of an automation system for assigning at least one value to a variable representing a physical property of affecting the bending of one of the intermediate rolls and for regulating the ratio of linear loads applied to the intermediate rolls, the weight of the intermediate rolls, and support forces applied to the intermediate rolls.

However, Schiel discloses a paper calender and a method of calendaring wherein a control computer (7) is programmed in accordance with a complex system of formulas of the multi-roll calender (1), which formulas associate the values of the weight forces, the linear loads resulting therefrom and the sag-free linear forces; the computer also determines the internal pressure of the sag-compensation roll (2) (column 3, line 31-37) by taking into account the known physical properties such as weights forces as well as the inherent stiffness of all rolls (column 2, lines 32-52) so that the support forces can be adjusted to have a relatively large control range of the linear forces in the calender nips (column 2, line 6-10).

Therefore, it would have been obvious to a person with an ordinary skill in the art, at the time the invention was made, to have modified the method and calender of Koivukunnas by having provided a computer programmed in accordance with a complex system of formulas of the multi-roll calender, as taught by Schiel, for determining the internal pressure of the rolls by taking into account the known physical properties such as weights forces as well as the inherent

Art Unit: 3721

stiffness of all rolls so that the support forces can be adjusted to have a relatively large control range of the linear forces in the calender nips.

With respect to claims 9 and 10, the method of Koivukunnas further includes adjusting the linear load in the set of rolls from nip to nip as illustrated in Figures 1A, 1B and 1C for different quality of the treated paper web (column 4, lines 19-37).

Response to Arguments

7. Applicant's arguments with respect to claims 1 and 11 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Louis K. Huynh whose telephone number is (703) 306-5694. The examiner can normally be reached on M-F from 9:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I. Rada can be reached on (703) 308-2187. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

LH
March 4, 2003



Rinaldi I. Rada
Supervisory Patent Examiner
Group 3700